# SYLLABUS – MAT172 College Algebra – Fall 2018

### COURSE INFORMATION

### CRN 32618, section T6

* **Monday** and **Wednesday, 9:30 – 10:45 a.m.,** classroom **D224**

**THREE RIVERS COMMUNITY COLLEGE**

* 574 New London Turnpike, Norwich, CT 06360
* 860-915-2000 (main phone number)
* www.trcc.commnet.edu

### MRS. STEWART, Adjunct Instructor

* E-MAIL / HELP: **mstewart@trcc.commnet.edu**
* OFFICE HOURS / HELP: **Mon. and Wed. from 9:00 – 9:20 a.m. and 11:00 a.m. – 1:20 p.m.,**
 in the Adjunct Faculty OfficeD205(W)

### COURSE DESCRIPTION

3 Credit Hours

PREREQUISITES: MAT\* K137 or MAT\* K137S with a “C” grade or better or appropriate placement through multiple-measures assessment process.

This course is a thorough and rigorous algebra course that strengthens the understanding of functions, their properties, multiple representations, and operations with functions. The function families studied include: polynomial, exponential, logarithmic, rational, and radical functions. Students will also learn linear and quadratic inequalities, absolute value equations and inequalities, linear and nonlinear systems.

### SUPPLIES

• One (1) three-ring notebook.

• Paper for note-taking and for assignments.

• Graph paper *(Free graph paper at www.mathbits.com)*

• Pencils and erasers. Highlighters or color pencils are helpful for note-taking.
Pens and red writing implements are NOT allowed on the graded assignments: quizzes, projects, and the final exam.

• Graphing calculator. (TI-83 and TI-84) Calculators associated with any type of communications device can not be used on in-class quizzes or the final exam.

### TEXTBOOK

*Precalculus: Graphs & Models*, 1st Ed., Coburn & Herdlick, McGraw Hill, 2012. ISBN 9780073519531.

### COLLEGE WITHDRAWAL POLICY

**Sun., Dec. 9** Last day to withdraw from classes – online. **(Fri., Dec. 7 in person)**

### METHOD OF EVALUATION and GRADING SYSTEM

* **QUIZZES** (highest 10 out of 12 quiz grades)  **60% of course grade**

*Quizzes will be given each* ***Monday****, at the beginning of class, commencing on* ***Sept. 10****.
Each quiz will consist of problems similar to several homework problems from the previous week.
No makeups. No retakes. If a student arrives late, the quiz can not be made up.*

* **5 PROJECTS**  **15% of course grade**

*Instructions and grading rubric will be provided with each project.
Students should work together in groups of two or three.
If a project is handed in late, 10 points will be deducted from that project grade.*

* **NOTEBOOK, HOMEWORK ASSIGNMENTS, ATTENDANCE** **5% of course grade**
* *Keep all course materials – notes, handouts, quizzes, projects, etc. - in your three-ring notebook.*
* *Students typically spend 2–3 hours of reading, studying, and working on assignments for every hour we meet in class. Students should schedule at least 6–9 hours per week for this class, outside of class meeting times.*
* *Students should attend all classes, arrive on time, and remain for the duration of the class meeting.*
* *Printed assignments will be distributed to the class each Monday on* ***GRAY*** *paper. If a student misses a class, the student should refer to these assignment sheets which will be posted as announcements on BlackBoard. It is the student’s responsibility to request any missed work or assignments before the next class.*
* *After the first week, students who arrive late for class will wait outside the classroom and will be seated in the classroom at the discretion of the instructor. Students who regularly arrive late, leave class early, or walk in and out of class cause a distraction which results in a disruption of the class environment and the learning process.*
* *Students will be required to meet individually with Mrs. Stewart at least 2 or 3 times this semester, outside of class time, to review the student’s progress in the class, homework assignments, and notebook.*
* **FINAL EXAM – Mon., Dec. 10, 2018 at 9:30 a.m.**  **20% of course grade**

*The final exam is* ***required****,* ***cumulative****, and* ***mandatory****.
The final exam will only be given on this date at this time.****No*** *makeup.* ***No*** *retake.*

*Reserve Wed., Dec. 12 in the event that class is cancelled on Mon., Dec. 10.*

* **Your numeric grades for the course, projects, quizzes, and final will correspond to letter grades:**

A (94–100), A– (90–93), B+ (87–89), B (83–86), B– (80–82), C+ (77–79), C (73–76),

C– (70–72), D+ (67–69), D (63–66), D– (60–62), F (below 60), and
UF is a grade notation that is entered by the faculty with a date of last participation, which immediately converts to a grade of “F” and appears as such on the student’s transcript.

### ACADEMIC DISHONESTY (CHEATING) POLICY

At TRCC, we expect the highest standards of academic honesty. The Board of Trustees’ Proscribed Conduct Policy prohibits cheating on examinations, unauthorized collaboration on assignments, unauthorized access to examinations or course materials, plagiarism.

The quizzes and final exam demonstrate your knowledge of the subject matter. Communication or collaboration of ANY type is ABSOLUTEY PROHIBITED during in-class quizzes and the final exam.

Calculators associated with any type of communications device are prohibited during in-class quizzes and the final exam.

Academic misconduct is punishable in a number of ways, including a score of a zero on the quiz or final exam where the cheating took place, a grade of an F in the course and/or possible censure on your permanent record.

All cases of academic dishonesty will be referred to the Academic Dean.

**FREE TUTORING at TASC (Tutoring and Academic Success Center)**

* TASC is located in room C-117, next to the Library/Learning Resource Center.
* TASC Phone: **860-215-9082**
* TASC Email: TASC@trcc.commnet.edu
* Weekly appointments or walk-in help as available.
* Computer Lab, videos, textbooks and more!

**COURSE OUTCOMES** (from the TRCC Math Department)

1) Define absolute value, find distances on the number line and the coordinate plane.

2) Simplify expressions with rational exponents, write them in radical form, simplify,
combine and rationalize radical expressions.

3) Solve linear and quadratic inequalities, absolute value equations and inequalities,
express answers in interval form.

4) Perform operations on complex numbers, conjugates, represent complex numbers graphically.

5) Perform operations on radical expressions, rational exponents, solve radical equations.

6) Find the domain and range of functions, combine functions, identify even and odd functions,
graph piece-wise functions, find composition of functions, inverse and transforms of functions.

7) Find the characteristics of polynomial functions, solve polynomial equations, find zeros (roots)
and x-intercepts of polynomials, apply the Fundamental Theorem of Algebra, The Remainder Theorem, The Factor Theorem, analyze end behavior.

8) Graph rational functions, find vertical, horizontal and slant asymptotes.

9) Graph exponential and logarithmic functions, use properties of exponents and logarithms,
solve exponential and logarithmic equations.

10) Solve systems of linear equations in several variables

### ACCOMMODATIONS

Students with learning disabilities should contact the Learning Specialist, Matt Liscum, at 860-215-9265 or via email at mliscum@trcc.commnet.edu as soon as possible to ensure timely accommodations. Students with physical disabilities should contact Elizabeth Willcox at 860-215-9289 or via email at ewillcox@trcc.commnet.edu to facilitate accommodations. All testing accommodations MUST be discussed with the instructor as soon as possible before testing beigns.

### CLASSROOM POLICIES

* Be respectful of each person.
* Silence/turn off and put away all cell phones, iPads, laptops, or similar. Do not use these devices during class. If there are extenuating circumstances which require a student to access their cell phone, the student is to send an email to the instructor to BRIEFLY explain the situation. The instructor will advise the student on acceptable arrangements.
* Any recordings (audio, visual, etc.) using any method or technology are not permitted for any reason.
* NO TALKING. Exception: any emergency situation.
* No food during class meeting time. Beverages allowed.
* During class, you are to work on MAT172 coursework only.
* Only students registered for this course may be in the classroom. Do not bring anyone, including pets, into the classroom.
* Any student who does not comply with these policies will be given one warning. If the student continues to violate these policies or any other policies of TRCC, the student will, at minimum, be dismissed from class. All issues regarding student conduct will be referred to the Dean of Students, Campus Security, and the Chair of the Mathematics Department.

### CLASS or SCHOOL CANCELLATION POLICY

In the event class is cancelled, check your email and/or BlackBoard for an assignment.

* If class is cancelled by Mrs. Stewart, you will typically be notified by an email, an announcement in BlackBoard, or a notice placed on the classroom door.
* Cancellations by TRCC are typically found on local radio and Conn. TV stations, www.trcc.commnet.edu., or the college’s main phone number 860-915-2000.

**DIGICATION**

All students are required to maintain an online learning portfolio in Digication that uses the Three Rivers College Template.

**BOARD of REGENTS for HIGHTER EDUCATION and CONNECTICUT STATE COLLEGES and UNIVERSITIES POLICY REGARDING SEXUAL MISCONDUCT REPORTING, SUPPORT SERVICES and PROCESSES POLICY**

**Statement of Policy for Public Act No. 14-11: An Act Concerning Sexual Assault, Stalking and Intimate Partner Violence on Campus:**

“The Board of Regents for Higher Education (BOR) in conjunction with the Connecticut State Colleges and Universities (CSCU) is committed to insuring that each member of every BOR governed college and university community has the opportunity to participate fully in the process of education free from acts of sexual misconduct, intimate partner violence and stalking. It is the intent of the BOR and each of its colleges or universities to provide safety, privacy and support to victims of sexual misconduct and intimate partner violence.”

**U.S. DEPARTMENT of EDUCATION and OFFICE of CIVIL RIGHTS TITLE IX STATEMENT of POLICY:**

“Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in education programs and activities in federally funded schools at all levels. If any part of a school district or college receives any Federal funds for any purpose, all of the operations of the district or college are covered by Title IX.

Title IX protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination, including discrimination based on gender identity or failure to conform to stereotypical notions of masculinity or femininity. All students (as well as other persons) at recipient institutions are protected by Title IX – regardless of their sex, sexual orientation, gender identity, part-or full-time status, disability, race, or national origin-in all aspects of a recipient’s educational programs and activities.”

If any student experiences sexual misconduct or harassment, and/or racial or ethnic discrimination on Three Rivers Community College Campus, or fears for their safety from a threat while on campus, please contact Maria Krug, the Diversity Officer and Title IX Coordinator: 860-215-9208, MKrug@trcc.commnet.edu.

**DISCLAIMER**

The instructor has the right to change/modify this syllabus at any time. Notification will occur by any or all of these methods: revised syllabus or schedule, announcement in class, email from the instructor, announcement posted on Blackboard.

**ACCEPTANCE**

Your choice to remain registered for this course implies your acceptance of this syllabus and all its policies and consequences as outlined. It is the student’s responsibility to read this entire syllabus and to ask questions if anything in this syllabus is not understood. If you do not agree with any of the terms in the syllabus, you are free to withdraw from this course.

**COURSE CONTENT - MAT\* K172, Fall 2018** (Note: \* - denotes review topics)

Chapter 1: **Relations, Functions, and Graphs**

\*1.1) Rectangular Coordinates, Graphing Circles and Other Relations

\*1.2) Linear Equations and Rates of Change

\*1.3) Functions, Function Notation, and the Graph of a Function

\*1.4) Linear Functions, Special Forms, and More of Rates of Change

1.5) Solving Equations and Inequalities Graphically; Formulas

1.6) Linear Function Models and Real Data

Chapter 2: **More on Functions**

 2.1) Analyzing the Graph of a Function

 2.2) The Toolbox Functions and Transformations

 2.3) Absolute Value Functions, Equations, and Inequalities

 2.4) Basic Rational Functions and Power Functions

 2.5) Piecewise-Defined Functions

 2.6) Variation: The Toolbox Functions in Action

 \*Appendix A 5-E) Solving Rational Equations

\*Appendix A 6-F) Solving Radical Equations

Chapter 3: **Quadratic Functions and Operations on Functions**

 \*3.1) Complex Numbers

 \*3.2) Solving Quadratic Equations and Inequalities

 3.3) Quadratic Functions and Applications

 3.4) Quadratic Models: More on Rates of Change

 3.5) The Algebra of Functions

 3.6) The Composition of Functions

Chapter 4: **Polynomial and Rational Functions**

 4.1) Synthetic Division: the Remainder and Factor Theorems

 4.2) The Zeros of Polynomial Functions

 4.3) Graphing Polynomial Functions

 4.4) Graphing Rational Functions

 4.5) Additional Insights to Rational Functions

 4.6) Polynomial and Rational Inequalities

Chapter 5: **Exponential and Logarithmic Functions**

 5.1) One-to-One and Inverse Functions

 5.2) Exponential Functions

 5.3) Logarithms and Logarithmic Functions

 5.4) Properties of Logarithms

 5.5) Solving Exponential and Logarithmic Equations

 5.6) Applications from Business, Finance, and Science

 5.7) Exponential, Logarithmic, and Logistic Equation Models

Chapter 9: **Systems of Equations and Inequalities**

 9.1) Linear Systems in Two Variables with Applications

 9.2) Linear Systems in Three Variables with Applications